

## **REMARKS**

Reconsideration of the above referenced application in view of the following remarks is requested. Claims 4, 6, 20, and 29 have been amended. Existing claims 1-34 remain in the application.

## **ARGUMENT**

### ***Specification Objections***

The disclosure is objected to because of the following informalities: i. Summary of the invention is missing (see MPEP 608.01(d)); ii. Cover page (page #1) is not required; and iii. Brief summary of invention sub-title is missing.

The Examiner objected to the specification as not including a "Summary of the Invention" section and required Applicants to amend the patent application to include such a section. Applicants hereby respectfully traverse the objection and kindly point out to the Examiner that a "Summary of the Invention" section is optional since neither the rules nor the patent statute requires a patent applicant to provide such summary. As discussed in 37 CFR 1.73:

A brief summary of the invention indicating its nature and substance, which may include a statement of the object of the invention, *should* precede the detailed description. Such summary *should, when set forth*, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed [emphasis added]. 37 CFR 1.73.

Thus, Applicants respectfully point out that the use of the word "should" and the phrase "when set forth" indicates that inclusion of a "Summary of the Invention" section is optional rather than mandatory. As a result, it is believed there is no legal basis upon

which to require a patent applicant to provide a “Summary of the Invention” section in a patent application or to require an applicant to amend the patent application to include such a summary. Therefore, the objection and any requirement related thereto should be withdrawn.

Regarding the cover page (page #1), although it might not be required, such a cover page is not forbidden by either rule or law. Thus, Applicants should not be required to remove this page from the disclosure and the objection should be withdrawn.

Because Applicants have traversed the Examiner’s objection that Summary of the invention is missing, the brief summary of invention sub-title is thus not required by either the rules or the statutes.

### ***Drawings Objections***

New Corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because, the drawings are informal.

A set of formal drawings are included with this response.

### ***Claim Objections***

Claim 4-6, 20, and 29 are objected to because of informalities.

In response, claims 4, 20, and 29 have been amended to correct the informality.

Regarding claim 6, since the word “data” is actually a plural form of word “datum,” it is grammatically incorrect to use an indefinite article “a” in front of “data.” Thus, no correction is necessary and the objections should be withdrawn.

### ***Claim Rejections – 35 USC § 101***

Claims 11-17 and 30-34 are rejected; claims 11-20 and 30-34 are statutory class of method with judicial exception of implementing abstract idea of transmitting, varying, receiving, etc. without tangible output.

The Examiner rejected claims 11-17 and 30-34 for failing to meet the tangible requirement of Section IV.C.2b.(2) of the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (hereinafter “Interim Guidelines”). Applicants respectfully disagree. According to the Interim Guidelines (Section IV.C.2b.(2)), “the opposite meaning of ‘tangible’ is ‘abstract’.” Claims 11-17 and 30-34 do not claim abstract ideas. Each of them claims a certain aspect of what is happening in a network system. For example, transmitting/receiving a signal is a very tangible act because without transmitting/receiving there will be no communication among components in the network system. Applicants believe that the tangible requirement does not require output of an act can be physically touched or sensed by a human being. Here the output of those actions (e.g., transmitting/receiving) can be easily sensed or “touched” by a machine. Thus, there is tangible output. Accordingly, Applicants respectfully request that the rejections of these claims be withdrawn.

Claims 21, 22, 23, 26, and 27 are rejected under 35 U.S.C. § 101 because they claims software implementation.

Applicants are not aware of such a per se rule against software implementation. Applicants have checked with the MPEP 2106 and the Interim Guidelines, but could not

find such a per se rule. Applicants appreciate if the Examiner particularly points out the source of this per se rule in the next Office Action. Unless this per se rule is supported by authorities, Applicants must assume that there is no such a per se rule against software patentability. In fact, even a software implementation can squarely fall into the statutory category of “a machine,” because “a machine” has never been interpreted to exclusively include non-software-implemented machine.

As a matter of fact, claims 21, 22, 23, 26, and 27 do not solely claim software implementation. It also recites, “a plurality of data lane interfaces, each data lane interface being capable of at least one of transmitting a serial data signal to and receiving a serial data signal from a data lane in a device-to-device interconnection.” Clearly, data lane interfaces are not solely software implementation.

For the foregoing reasons, claims 21, 22, 23, 26 and 27 are statutory. Applicants thus respectfully request that the 35 USC § 101 rejections of these claims be withdrawn.

### ***Claim Rejections – 35 USC § 102***

Claims 1-7, 9-13, and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Agilent Technologies product note (Dated January 2002, hereinafter referenced as Agilent).

Regarding claim 1, it recites a limitation of “logic to vary the data rate based, at least in part, upon a number of the data lane interfaces actively transmitting a serial data signal to or actively receiving a serial data signal from the device-to-device interconnection” (hereinafter “data rate varying limitation”). The Examiner asserted that Agilent discloses this limitation. Applicants respectfully disagree.

First, the Examiner asserted that this limitation is a functional one and no structural element of the logic was claimed in the claim. Applicants respectfully but strongly disagree with this assertion. The specification defines the term logic as structure (see page 4, lines 23-24) and further discloses corresponding structure for varying the data rate (see e.g., page 11, lines 15-19; page 18, line 12 to page 19, line 21). Thus, this data rate varying limitation is a structural limitation NOT a functional limitation. Reference that merely discloses the capability of varying the data rate is not sufficient to anticipate this limitation.

Second, assuming that this data rate varying limitation is a functional one for the argument purpose only, Agilent does not anticipate this limitation either. The Examiner asserted that because TEST instruments are capable of generating  $\frac{1}{4}$  main clock rate, the instruments will be able to generate and capture various data rates. Applicants respectfully but strongly disagree. The limitation recites varying data rate based on a number of data lane interfaces actively transmitting or actively receiving. Agilent merely discloses that a test instrument is able to generate a fraction of main clock rate, which has nothing to do with the claimed limitation. A test instrument's capability is totally different from a device being tested. In fact, Agilent does not disclose that the test instrument can vary DATA RATE; instead it merely discloses that the test instrument can generate a fraction of main clock rate. Note that data rate is not the same or equivalent to main clock rate. These are two totally different things. Moreover, even assuming that the test instrument is capable of varying the data rate for the argument purpose only, the test instrument in Agilent does not vary the data rate based on the number of data lane interfaces actively transmitting or actively receiving. Thus, even

assuming that the claimed limitation is not a structural one for the argument purpose only, Agilent does not disclose this limitation at all.

For the forgoing, Agilent does not disclose the data rate varying limitation at all. Because Agilent does not disclose each and every limitation of claim 1, claim 1 is not anticipated by Agilent. Accordingly, all of the claims that depend therefrom (i.e., claims 2-3) are not anticipated by Agilent either.

Independent claims 4, 11, and 18 also include the data rate varying limitation. The Examiner rejected this limitation based on the same reason used to rejection this limitation recited in claim 1. For the reasons presented above, Agilent does not disclose this limitation at all. Because Agilent does not disclose each and every limitation recited in independent claims 4, 11, and 18, these claims are not anticipated by Agilent. Accordingly, claims 5-7, 9-10; 12-13, 16-17; and 19 are not anticipated by Agilent either because they depend from claims 4, 11, and 18, respectively.

Therefore, Applicants respectfully request that the 35 U.S.C. 102 rejections of claims 1-7, 9-13, and 16-19 based on Agilent be withdrawn.

### ***Claim Rejections – 35 USC § 103***

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agilent in view of Samudrala (US 2005/0013311 A1).

As presented above in traversing the 35 U.S.C. 102 rejections of claim 1, Agilent does not teach the data rate varying limitation recited in claim 1. Samudrala was not cited to cure those deficiencies. Thus, the combination of Agilent and Samudrala does not make claim 1 obvious. That is, claim 1 is patentable over Agilent in view of

Samudrala. According, claim 2, which depends from claim 1, is also patentable over Agilent in view of Samudrala. Applicants respectfully request that the 35 U.S.C. 103 rejections over claim 2 be withdrawn.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agilent in view of January 1997 National Semiconductor publication (pages 1-14, Jan. 1997) (hereinafter National).

As presented above in traversing the 35 U.S.C. 102 rejections of claim 18, Agilent does not teach the data rate varying limitation recited in claim 18. National was not cited to cure those deficiencies. Thus, the combination of Agilent and National does not make claim 18 obvious. That is, claim 18 is patentable over Agilent in view of National. According, claim 20, which depends from claim 18, is also patentable over Agilent in view of National. Applicants respectfully request that the 35 U.S.C. 103 rejections over claim 20 be withdrawn.

Claims 21-29 and 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agilent in view of Actel Application Notes (hereinafter Actel).

Independent claims 21 and 30 also include the data rate varying limitation. The Examiner rejected this limitation based on the same reason used to rejection this limitation recited in claim 1. For the reasons presented above, Agilent does not disclose this limitation at all. Actel was not cited to cure those deficiencies. Thus, the combination of Agilent and Actel does not teach or suggest all the limitations recited in claims 21 and 30. Independent claims 21 and 30 are thus patentable over Agilent in

view of Actel. According, claims 22-29 and claims 31-34, which depend from claim 21 and 30, respectively, are also patentable over Agilent in view of Actel. Applicants respectfully request that the 35 U.S.C. 103 rejections over claim 21-29 and 30-34 be withdrawn.

### **CONCLUSION**

In view of the foregoing, it is believed that existing active claims in the present application are all in condition for allowance. If the Examiner has any questions, the Examiner is invited to contact the undersigned at (503) 264-1700. Early issuance of a Notice of Allowance is respectfully requested.

Respectfully submitted,

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